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NOTES

THE MEAN STATURE OF AMERICAN MALES

By Charles B. Davenport, *Carnegie Institution of Washington*

The stature of a person has long been regarded as his most important single measure. From the time when we first walk, up to maturity, we use it as a measure of growth and development. In mature life it influences our standing among men, our vocations, our apparel. Adult stature varies with conditions of development; it is profoundly influenced by heredity, also, and, indeed, forms an important distinction of race. Thus, while the men of the north of Scotland average nearly 70 inches in stature, Japanese males do not much exceed 62 inches. Norwegians at 68 inches contrast with Polish Jews at 63 inches. In general, the "Nordic" population, with its blond hair and blue eyes, is the tallest in Europe; the Apline race comes next; the Mediterranean is still shorter; and the Asiatic races are the shortest of all the main races. In Europe, especially, the average stature of the men of a country has a considerable ethnographic interest.

The population of the United States is now a great mixture of human races—such a mixture as the world has never before seen. It includes Nordics and Mediterraneans, Negroes and Asiatics, and Asiatic-blends from Southeastern Europe. In such a population the *average* stature of males would seem to have little significance because the population is made up of such varied components. Nevertheless, there is an interest attaching to the mean stature of American males if only on account of the insight it gives into the relative proportion of the different racial components of our population. And the change in mean stature of this population from period to period gives a rough index of the racial change.

The selective draft by which our army was raised in 1917–18 gave the first opportunity in half a century to measure an adequate number of American adult males in about the proportions in which they occur in the population as a whole. Over four million males from 18 to 30 years of age were thus measured, and the surgeon-general of the army has in his keeping the records of stature, weight, and chest girth of 2,500,000 of them. The data have been tabulated for the first million draft recruits (ages 21 to 30 years inclusive) and the mean found to be 67.49 inches.

In this average all ages, white and colored, and all European races are lumped. Within the given limits of age, the age-differences of stature are not very significant for our present purpose. The average stature of white and colored is the same within five-hundredths of an inch, if we may judge from measurements made on 1,000,000 men at demobilization. The figure given is merely the average stature of young adult American males in 1917–18.

A natural inquiry is: How does the stature of draft recruits of 1917–18 compare with that of recruits of the Civil War, 1861–64, fifty-five years earlier? The mean stature of 1,104,841 white recruits of the Civil War was, according to Gould (1869, p. 105), 67.64 inches. To conclude that the average stature of our male population has diminished only 0.15 inches would be unjustifiable, however, because the men measured in 1861–64 are not comparable, as a whole, with those measured in 1917–18. First, because the population of Civil War recruits excluded the southern states which were in rebellion, while the population of 1917–18 includes them. Now it is just these southern states that, in 1917–18, show the tallest average stature; and the inclusion in the later data (and not in the earlier) of several states with a mean stature three-fourths of an inch above the average tends to raise unduly the 1917–18 mean stature as compared with that of the Civil War. Second, while relatively few of the first million recruits of the World War were under 21 years of age, there were 351,175 out of 1,104,841, or 31.78 per cent, of the recruits of the Civil War who were under that age. Many men under 21 have not reached their full stature, and the exclusion of such men from the later mass of data tends to raise its average.

A juster basis of comparison of the mean stature in the two epochs is that between the individual states, and accordingly the following table has been drawn up. It is based on Gould's Table I for the Civil War data, and on the Selective Draft data for 1917–18, and reveals a certain measure of stability in the order of average male statures in the different states, even during the course of half a century. In both the earlier and the later series Iowa, Kentucky, Missouri, and West Virginia stand near the top of the list (of these northern states), and Connecticut and Rhode Island at the very bottom. New York, Pennsylvania, and Massachusetts stand low in both series, the effect of the immigration of South Irish and South German stock being already evident in 1861–64. On examining the difference column it appears that there is an increase in mean stature in Minnesota, due to recent Scandinavian immigration thither; Wisconsin shows little change in mean stature because the increase of Scandinavians has counterbalanced the effect of the shorter immigrants. New Jersey's increase

COMPARISON OF STATURE (IN INCHES) OF NATIVE AND FOREIGN-BORN, WHITE AND COLORED DRAFT RECRUITS, UNITED STATES, 1917–18; AND WHITE RECRUITS OF THE CIVIL WAR (GOULD, TABLE I), BY STATES IN ORDER OF 1917–18 AVERAGE STATURES (LOUISIANA OMITTED ON ACCOUNT OF SCANTY DATA IN GOULD'S TABLE)

State	Stature		Difference
	1917-18	1861-64	
Minnesota	68.04	67.63	+.41
Iowa	68.04	68.13	—.09
Kentucky	68.02	68.16	—.14
Missouri	67.95	68.03	—.08
West Virginia	67.87	68.43	—.56
Indiana	67.75	68.06	—.31
Wisconsin	67.60	67.65	—.05
Illinois	67.40	67.97	—.57
Ohio	67.38	67.84	—.46
Maine	67.28	68.12	—.84
Michigan	67.23	67.62	—.31
Vermont	67.12	67.61	—.49
Maryland	67.08	67.31	—.23
New Hampshire	66.97	67.40	—.43
New Jersey	66.77	66.58	+.19
Massachusetts	66.76	67.05	—.29
New York	66.72	67.09	—.37
Pennsylvania	66.72	67.14	—.42
Connecticut	66.71	67.09*	—.38
Rhode Island	66.40	67.09*	—.69

is probably due chiefly to its large commuting population, the overflow of the best of the metropolis which has attracted great numbers of men of exceptionally fine physique. On the other hand decreases in average stature have occurred as follows: Illinois, .57 inch; Ohio, .46 inch; Rhode Island and Connecticut, about .69 and .38 respectively; New York, .37; Indiana, .31; Michigan, .31; Massachusetts, .29. These are the states which have received most of the recent immigration of the Mediterraneans, Polish-Jews, and Balkanese. The great reductions in Maine, New Hampshire, and Vermont are due chiefly to the immigration of the French-Canadians into these states.

To secure the adjusted and more accurate difference between the statures of 1917–18 and 1861–64 by applying the corrections mentioned above, the following formula may be useful:

$$\text{Difference} = \frac{\Sigma[\Delta f]}{F} - J.$$

In this formula, Δ is the difference in the state statures from the table; "f" is the population of the corresponding state in 1910; "F" is the population of the United States proper in 1910; and "J" is the reduction of the 1917–18 stature to be made because of the absence of the juvenile statures included in the 1861–64 data.

Two assumptions have to be made in utilizing the above formula.

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*Data for Rhode Island and Connecticut consolidated, 67.09.

First, that the population of the mountain and Pacific states was negligible at the time of the Civil War, and this involves no great error. Second, that in the southern states no change has occurred in the mean stature of the population between 1861–64 and 1917–18. The latter is, of course, not strictly true. It is true, however, that the change in mean stature of the population of these states has been slight as compared with northern states. A comparison of the statistics of 1917–18 with Coolidge's (1856) army recruiting statistics of 1839–55 suggests an increase in stature for Tennessee, Alabama, North Carolina, and Virginia, and a decrease for Georgia and South Carolina. Little stress should be laid on these differences, however, especially since for some reason in the states where comparisons can be made Coolidge's averages all run lower than those of Civil War recruits taken a few years later. It is probable that the army recruits of 1839–55 were not a fair representation of the male population in respect to stature. Be that as it may, utilizing the assumption just named the value of $\frac{\Sigma[\Delta f]}{F}$ is found to be -0.1799 inches.

The value of "*J*" is found as follows. From Gould's data (1869, p. 105), recruits under 21 years of age were 0.997 inches shorter than recruits 21–30 years, the exclusive ages of recruits of 1917–18. Such men under 21 constituted 31.78 per cent of the total. Hence, they reduced the mean stature of the 1861–64 recruits by 0.997 x .3178, or 0.3168 inches. Adding the two quantities (0.18 and 0.32) for which correction must be made, we gain as the most probable reduction of mean stature of men 21–30 years old in the United States during the past 50 years, half an inch. This is one physical result of the "new immigration."

A NEW ANALYSIS OF PERSONAL INCOME TAX RETURNS

By M. C. Rorty

The accompanying chart represents an attempt to analyze personal income tax returns in such manner as to show the percentages of increase in the larger incomes during the war period. For this purpose, use has been made of the shift from year to year in the dividing lines between comparable groups of income taxpayers. Referring to the chart, it will be seen, for example, that in 1914, .09 per cent of the actual and potential income tax payers (heads of families, etc.) had incomes of $24,700 or more. In 1915 the same percentage of all possible income taxpayers (allowing for increases in population) had incomes of $29,200 or more. In 1917 this percentage of income taxpayers had incomes of $45,000 or more. The increase in the base line for the group had, therefore, been 83.6 per cent during the period from 1914 to 1917.

For comparison with the figures as to incomes, there has been plotted at the bottom of the chart an index of wage increases from 1914 to 1919.